

T631A,B,C Farm-O-Stat Airswitch Controller

SPECIFICATION DATA



APPLICATION

T631 controllers provide line voltage control of heating, cooling, and ventilation systems in farm buildings or storage areas. Typical applications include:

- Barns
- Brooder houses
- Poultry houses
- Milk houses
- Crop storage houses

FEATURES

The T631A-C Farm-o-stat airswitch controller provides the following features:

- Slots in front and bottom of case for maximum air circulation over the coiled sensing element.
- Rugged steel case treated to resist corrosion.
- Dependable switching provided by soft snap switch(es) permanently sealed against contamination.
- Temperature setting knob and scale on front of controller.
- Coiled cooper tube sensing element

MODLES

Tradeline Model

T631C Airswitch Controller: For temperature or ventilation control, gray finish, spdt switching. Rated for 1 hp (0.7 kW). Packed with cross reference label and special instruction sheet.

Standard Models

T631A Farm-O-Stat Controller: For control of barn ventilation, red finish, spdt switching.

T631B Farm-O-Stat Controller: For control of barn ventilation, red finish, two spdt switches.

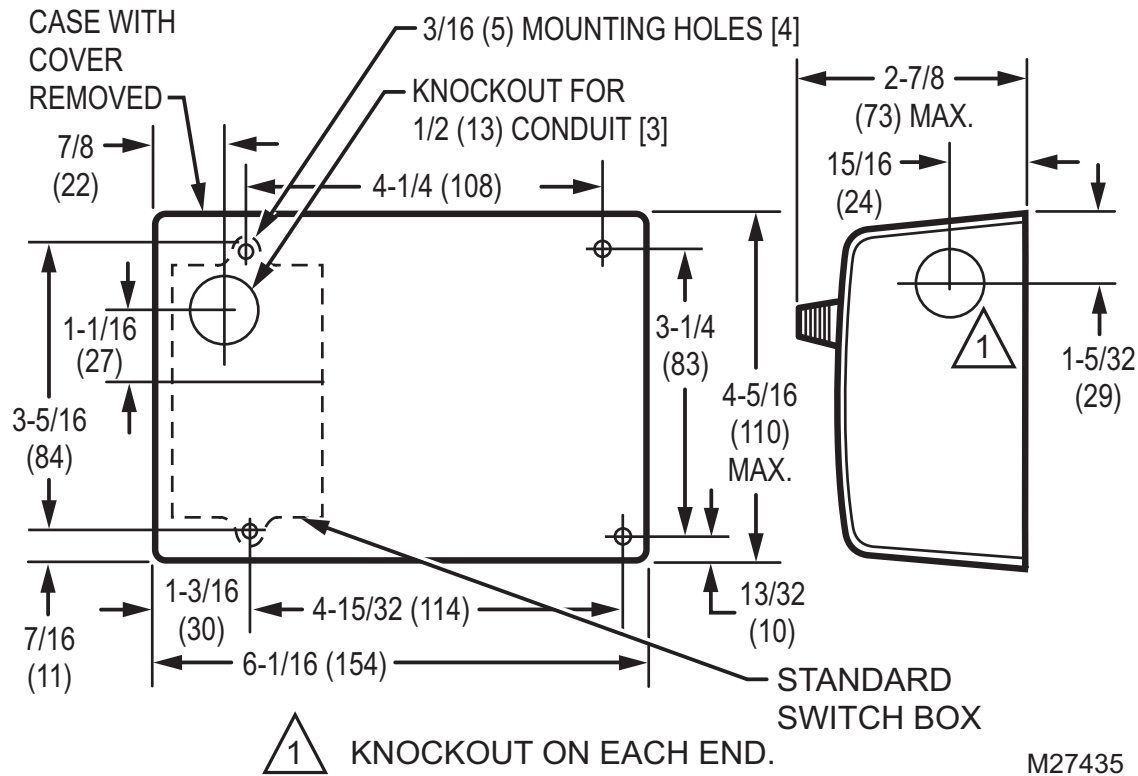
T631C Airswitch Controller: For temperature or ventilation control, gray finish, spdt switching.

NOTE: For weatherproof Farm-O-Stat Controller in NEMA 4X enclosure, use T631F,G. See specification sheet, form 60-2509.



Table 1. T631A, B, C Selection Guide

Product Number	Setpoint Temp. Range		Maximum Operating Temp.		Differential Temp.		Interstage Differential Temp.		Output	Voltage	Contact Ratings		
	(F)	(C)	(F)	(C)	(F)	(C)	(F)	(C)			(24 Vac)	(120 Vac)	(240 Vac)
T631A1006	35 to 100	–	120	49	2	1.1	–	–	1 SPDT	24 Vac or 120/240 Vac	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR
T631A1022	70 to 140	–	150	67	2	1.1	–	–	1 SPDT	24 Vac or 120/240 Vac	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR
T631A1030	0 to 70	–	125	52	3	1.7	–	–	1 SPDT	24 Vac or 120/240 Vac	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR
T631A1063	-10 to 100	–	125	52	3	1.7	–	–	1 SPDT	24 Vac or 120/240 Vac	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR
T631A1113	35 to 100	–	120	50	3.5	1.9	–	–	1 SPDT (1 hp at 0.7 kW)	120 Vac or 240 Vac	–	16.0 AFL, 96.0 ALR	8.0 AFL, 48.0 ALR
T631A1154	–	0 to 40	120	50	2	1.1	–	–	1 SPDT	24 Vac or 120/240 Vac	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR
T631B1005	35 to 100	–	120	50	2	1.1	3.5	1.9	2 SPDT	120 Vac or 240 Vac	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR
T631B1054	35 to 100	–	120	50	2	1.1	0 - 7 adj.	0 - 4 adj.	2 SPDT (1 hp at 0.7 kW)	120 Vac or 240 Vac	–	16.0 AFL, 96.0 ALR	8.0 AFL, 48.0 ALR
T631C1012	20 to 90	–	125	52	3	1.7	–	–	1 SPDT (1 hp at 0.7 kW)	120 Vac or 240 Vac	–	16.0 AFL, 96.0 ALR	8.0 AFL, 48.0 ALR
T631C1020	70 to 140	–	150	67	2	1.1	–	–	1 SPDT	24 Vac or 120/240 Vac	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR
T631C1038	–	-10 to 30	125	52	3	1.7	–	–	1 SPDT	24 Vac or 120/240 Vac	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR
T631C1046	–	20 to 60	150	67	2	1.1	–	–	1 SPDT	24 Vac or 120/240 Vac	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR
T631C1053	35 to 100	–	120	49	2	1.1	–	–	1 SPDT	120 Vac or 240 Vac	2.0A AFL	7.4 AFL, 44.4 ALR	3.7 AFL, 22.2 ALR
T631C1103 (Tradeline)	-30 to 100	–	125	52	5	2.8	–	–	1 SPDT (1 hp at 0.7 kW)	24 Vac or 120/240 Vac	–	16.0 AFL, 96.0 ALR	8.0 AFL, 48.0 ALR



M27435

Figure 1. T631 installation dimensions, in in. (mm shown in brackets)

INSTALLATION

When Installing This Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, perform the check out procedure.



WARNING

Electrical Shock Hazard.

Can cause severe injury, death or property damage.

Disconnect power supply before beginning wiring or making wiring connections to prevent electrical shock or equipment damage.

Location

Locate the T631 controller about 5 ft. (1.5 m) above the floor in an area with good air circulation and average temperature. The controller mounts on any flat surface or on switch box with screws through back of case. Do not locate T631 on an outside wall, or where the controller will be affected by drafts or radiant heat from the sun.

Mounting On Flat Surface or Switch Box

1. Remove cover by unscrewing single screw in cover.
2. Remove appropriate knockout for wiring.
3. Attach controller to mounting surface or switch box.

NOTE: A wooden panel should be placed between the controller and the mounting surface if the surface is brick, metal, or concrete.

4. Run wires through the knockout and into the controller case.

Wiring



WARNING

Electrical Shock Hazard.

Can cause severe injury, death or property damage.

Disconnect power supply before beginning wiring or making wiring connections to prevent electrical shock or equipment damage.

Refer to wiring diagrams (Fig. 2-8) and to installation information furnished with the system equipment when wiring the T631.

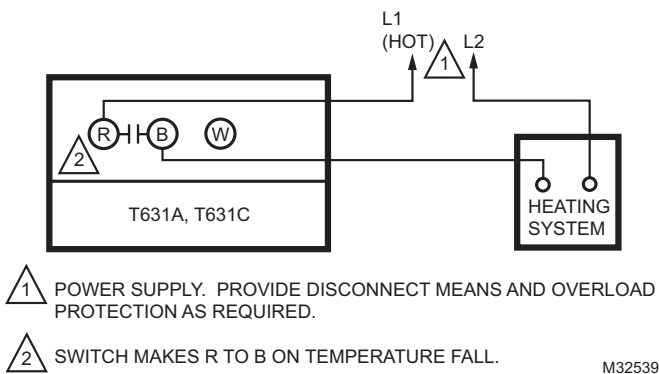


Figure 2. T631A or C hookup for control of heating system.

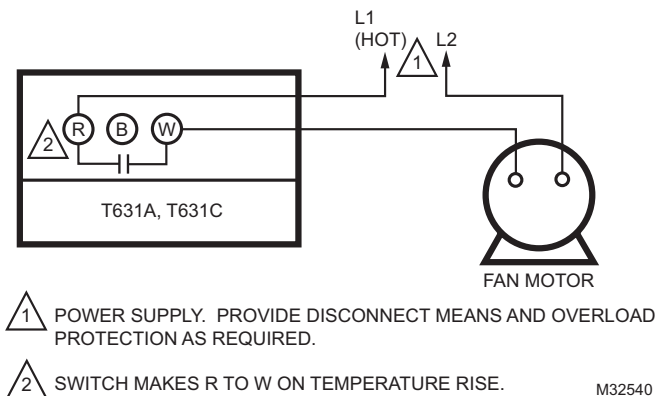


Figure 3. T631A or C hookup for controlling fan.

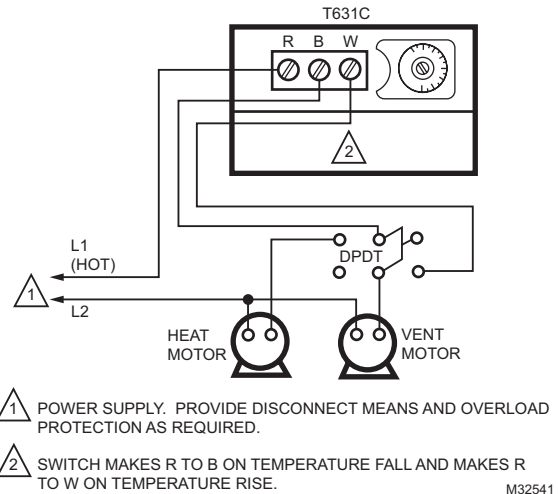


Figure 4. T631C controlling heating and ventilation.

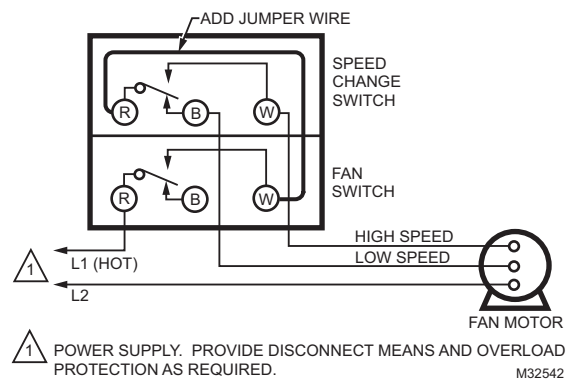


Figure 5. Typical hookup of T631B for controlling a 2-speed fan.

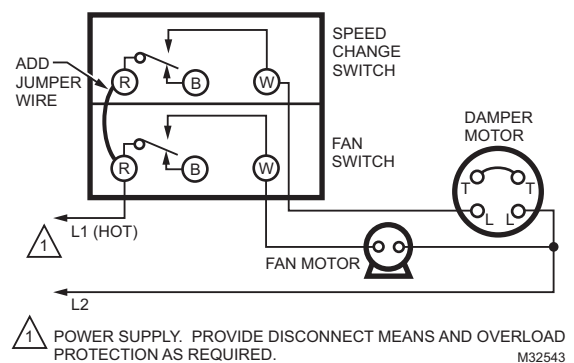


Figure 6. T631B controlling single-speed fan and damper motor.

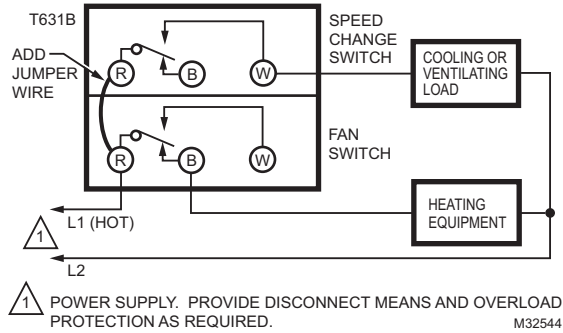


Figure 7. Typical T631B connections for heating and cooling (or ventilating) control.

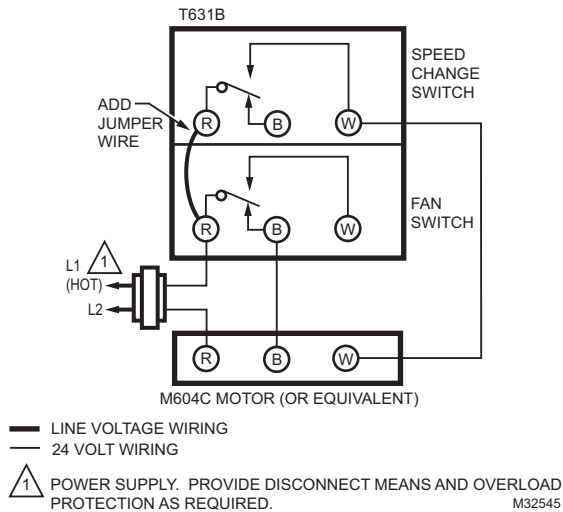


Figure 8. Typical T631B connections for floating control of damper motor.

CHECKOUT

1. Turn on the power.
2. Turn the temperature adjusting knob and scale across the indicator and back again. See Fig. 9. The controlled equipment should switch on and off.
 - When wired for heating (R to B), turning the dial counterclockwise to a higher setting simulates a space temperature drop and the heating equipment should come on. When the controller is wired for a cooling or ventilating application (R to W), turning the dial clockwise to a lower setting simulates a rise in temperature and the cooling or ventilating equipment should come on.
3. If the controlled equipment does not start and stop as indicated in step 2, disconnect the power supply and check the wiring and terminal connections.
4. If the controlled equipment operates opposite to the sequence desired, shut off the power and check for reversed leads on the switch.

IMPORTANT

If the T631 is mounted in an area where it is subjected to dust or other substances, clean periodically. Wipe the temperature sensing coil to maintain maximum air contact if the surrounding air contains oil or other adhesive substances.

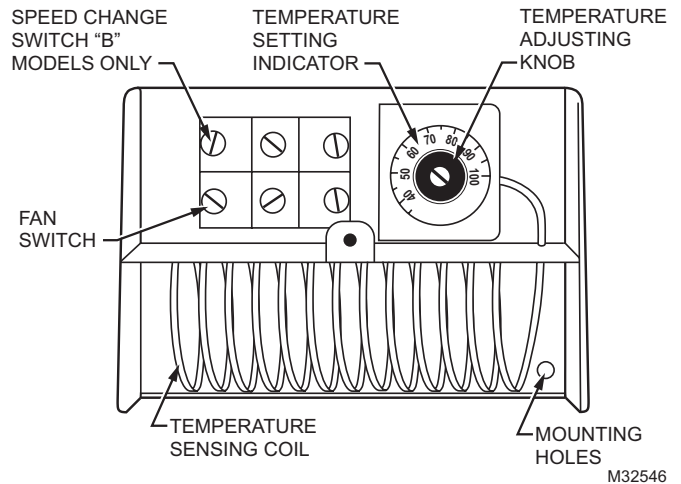


Figure 9. T631 with cover removed. T631A and C have three wiring terminals only.

CSA Listed: File No. LR1620, Guide No., 400-E-O.
Underwriters Laboratories Listed: File No. E4436, Vol. 1,
dated 2-27-55; Guide No. XAPX.

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